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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,201	04/07/2006	Bjarne Due Larsen	50412/015002	5189
21559	7590	03/17/2011	EXAMINER	
CLARK & ELBING LLP 101 FEDERAL STREET BOSTON, MA 02110			AUDET, MAURY A	
			ART UNIT	PAPER NUMBER
			1654	
			NOTIFICATION DATE	DELIVERY MODE
			03/17/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentadministrator@clarkelbing.com

Office Action Summary	Application No. 10/534,201	Applicant(s) LARSEN ET AL.	
	Examiner MAURY AUDET	Art Unit 1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,56,57,61-73,75-80 and 83-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 85-89 is/are allowed.
- 6) ☒ Claim(s) 1,56,57,61-73,75-80,83 and 84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendments and arguments are acknowledged. Applicant has overcome the previous 103 rejection over Jones et al. (US 6,395,532 B1). Based on the amendments an updated search of the was conducted and art on a new species was uncovered and is applied below as a new 102/103 rejection.

The present application has been transferred from former Examiner Young to the present Examiner.

Applicant's amendment and response is acknowledged, and the search has been extended to the species beyond the originally elected, and allowed species (now Independent Claim 89). Due to the recitation of new art of record, the application is sent Non-Final.

Election/Restrictions-Modified, Supplemental Held in Abeyance

The original election without traverse was to Compound 22, (H-D-Lys(4-nitrobenzoyl-Gly-OH), as the invention, in the reply filed on 10/15/07 is acknowledged. All the claims have been examined, but only as drawn to the elected compound (speices) of the invention, Compound 22, (H-D-Lys(4-nitrobenzoyl-Gly-OH).

Thereafter, the genus was attempted to be searched, but an undue burden found. A supplemental restriction was then sent, which Applicant responded to by traverse. The Examiner has again returned to attempting to search the 2 distinct variable genuses of Gly-Lys and Lys-Gly, with distinct structures therein. Following Applicant's response to the present action, if needed, an interview will be scheduled to discuss the status of the supplemental restriction requirement.

Claim Rejections - 35 USC § 102/103-New

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 56-57, 61-73, 75-80, and 83-84 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rahman et al. (Journal of Organic Chemistry (1998), 63(18), 6196-6199).

Rahman et al. teach Lys-Gly with a modified sidechain.

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ORIGINAL REFERENCE NO.: 129:53161a,53164a
TITLE: Infrared and Raman Spectra of a Single Resin Bead
for

Encoding Analysis of Solid-Phase Reactions and Use in
Combinatorial Libraries

AUTHOR(S): Rahman, Shahzad S.; Busby, David J.; Lee, David C.
CORPORATE SOURCE: Departments of Medicinal Chemistry and Analytical
Sciences, SmithKline Beecham Pharmaceuticals,
Harlow,

Essex, CM19 5AW, UK
SOURCE: Journal of Organic Chemistry (1998), 63(18),
6196-6199

CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Aug 1998

AB A range of lysine amides tagged with different combinations of either
Raman- and/or IR-active groups (4-cyanobenzoyl chloride, 3,5-di-tert-
butyl-4-hydroxybenzoic acid, or 4-pentynoic acid) have been synthesized
on Sasrin resin. Randomly selected beads of unknown identity were then
analyzed by Fourier transform IR (FTIR) and Raman microspectrometry.
Using a combination of these two spectroscopic techniques, the six amide
derivs. and the unfunctionalized lysine template were unambiguously
identified from their Raman and FTIR spectra. The potential
applications of FTIR and Raman microspectrometry for anal. of organic
reactions on solid support and for encoding combinatorial libraries has
been demonstrated.

IT 213533-98-3DP, resin-bound

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT

(Reactant or reagent)

(combinatorial library and IR and Raman spectra of single resin bead)

IT 213533-98-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(combinatorial library and IR and Raman spectra of single resin bead)

IT 213533-98-3DP, resin-bound

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT

(Reactant or reagent)

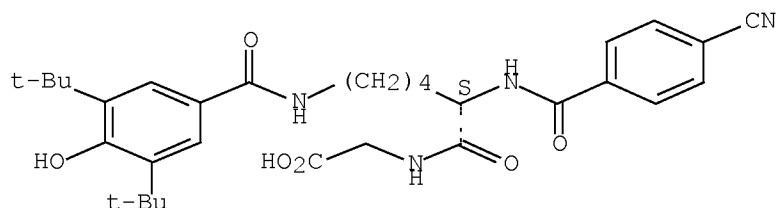
(combinatorial library and IR and Raman spectra of single resin bead)

RN 213533-98-3 HCAPLUS

CN Glycine, N6-[3,5-bis(1,1-dimethylethyl)-4-hydroxybenzoyl]-N2-(4-
cyanobenzoyl)-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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IT 213533-98-3P

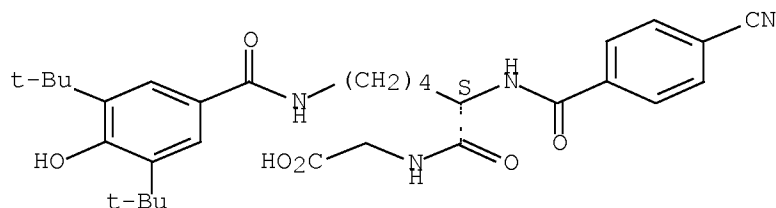
RL: SPN (Synthetic preparation); PREP (Preparation)

(combinatorial library and IR and Raman spectra of single resin bead)

RN 213533-98-3 HCAPLUS

CN Glycine, N6-[3,5-bis(1,1-dimethylethyl)-4-hydroxybenzoyl]-N2-(4-cyanobenzoyl)-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 33 THERE ARE 33 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

If not expressly teaching the variable genus modified sidechain of the presently claimed Gly-Lys dipeptide, it would have been obvious to one of ordinary skill in the art at the time the invention was made to synthesize Lys-Gly dipeptides, bearing any type of known side chain modifications well known in the peptide arts, in Rahman et al., because Rahman et al. advantageously teaches the Lys-Gly dipeptide above with modified sidechain. Absent evidence

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to the contrary of some unexpected result (e.g. in treating arrhythmias), using one side chain alternative versus others.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

Allowable Subject Matter-Previously Indicated

Claims 85-89 are in condition for allowance.

New claim 89, having now been amended commensurate in scope with the elected invention, were not found to have been reasonable taught or suggested by the prior art of record, as drawn to the originally elected species of Compound 22 of the invention, (H-D-Lys(4-nitrobenzoyl-Gly-OH).

Claims 85-88, drawn to methods of using the Gly-Lys modified conjugates of the genus of claim 1 to treat arrhythmia's were not found to be reasonably taught or suggested by the prior art of record.

Appropriate correction is required.

Conclusion

Applicant's amendment necessitated (amended Lys-Gly structure) the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See

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MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Claims 85-89 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAURY AUDET whose telephone number is (571)272-0960. The examiner can normally be reached on M-Th. 7AM-5:30PM (10 Hrs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MA, 3/13/2011

/Maury Audet/
Primary Examiner, Art Unit 1654